Data Validation Checklist
Semivolatile Organic Analyses

Project:	35TH Avenue Superfund Site	Project No:	60430028; 1
Laboratory:	TestAmerica – Savannah, GA	Job ID.:	680-115692-2
Method:	SW-846 8270D Low-Level (PAH)	Associated Samples:	Refer to **Attachment A** (Sample Summary)
Matrix:	Soil	Samples Collected:	08/11/2015 and 08/12/2015
Reviewer:	Kelly Brannigan, URS Group, Inc.	Date:	01/27/2016
Concurrence[1]:	Martha Meyers-Lee, URS Group, Inc.	Date:	02/02/2016

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were sample storage and preservation requirements met? If temperature >6°C, then J/UJ flag results.	✓				
2. Were all COC records signed and integrity seals intact, indicating that COC was maintained for all samples?	✓				
3. Were there any problems noted in laboratory data package concerning condition of samples upon receipt?		✓			
4. Do any soil samples contain more than 50% water? If yes, then results are to be reported on a wet-weight basis.		✓			
5. Were holding times met (≤7 and 14 days from collection to extraction for aqueous and solid samples, respectively; ≤40 days from extraction to analysis)? If not, then J/UJ flag sample results. If grossly (2x) exceeded, then flag J/R.	✓				
6. Were results for all project-specified target analytes reported?	✓				
7. Were project-specified Reporting Limits achieved for undiluted sample analyses?	✓				
8. Were samples with analyte concentrations exceeding the calibration range of the instrument re-analyzed at a higher dilution? If not, then J flag sample result.	✓				
9. Was a method blank extracted with each batch (i.e., one per 20 samples, per batch, per matrix and per level)?	✓				
10. Were target analytes detected in the method blank?		✓			
11. Are equipment/rinsate blanks associated with every sample? If no, note in DV report.		✓		According to the QAPP, a rinsate blank is to be collected after each decontamination event, which occurs once per week per the client. A rinsate blank is not associated with this sampling event. Blank contamination will be evaluated based on method blank results.	
12. Were target analytes detected in equipment/rinsate blanks?			✓		
13. Were analytes detected in samples below the blank contamination action level? If yes, U flag positive sample results <5x associated blank concentration (10x for common blank contaminants–phthalates)			✓	Target analytes were not detected during the analysis of the method blank.	
14. Is a field duplicate associated with this Job?	✓			Sample 680-115692-28 (CV0511GGG-CSD-6) is a field duplicate of 680-115692-27 (CV0511GGG-CS-6).	

[1] Independent technical reviewer

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
15. Was precision deemed acceptable as defined by the project plans?		✓		Refer to **Attachment B** (Field Duplicate Evaluation)	J/UJ
16. Were DFTPP ion abundance criteria (i.e., Table 3 of SW-846 8270D) met? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓			Alternate tuning criteria were used by the laboratory (i.e., EPA Method 525.2). All ion abundance criteria were met per EPA Method 525.2.	
17. Were samples analyzed within 12 hours of the DFTPP tune? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓				
18. Were initial and continuing calibration standards analyzed at the proper frequency for each instrument? • Ensure that a minimum of five standards are used for the initial calibration. If no, use professional judgment to determine the effect on the data and note in the reviewer narrative. • An initial calibration is to be associated with each sample analysis. • A continuing calibration standard is to be analyzed for every 12 hours of sample analysis per instrument.	✓			• Instrument ID: CMSK • Initial Calibration: 08/13/2015 • ICV: 08/13/2015 @ 20:38 • CCV: 08/19/2015 @ 12:12[2] • Instrument ID: CMSY • Initial Calibration: 08/12/2015 • ICV: 08/12/2015 @ 17:06 • CCV: 08/18/2015 @ 12:35[3]	
19. Were calibration results within laboratory/project specifications? • ICAL (Criteria: ≤20 mean %RSD (≤50% for poor performers), OR r≥0.995, OR r^2≥0.99, and RRF ≥0.050 (≥0.010 for poor performers)): o If %RSD>20 (>50% for poor performers), or r <0.995, or r^2 <0.995, then J flag positive results and UJ flag non-detects o If mean RRF <0.050 (<0.010 for poor performers), then J flag positive results and R flag non-detects (unless the lab analyzed a detectability check standard) • ICV and CCV (ICV Criteria: ≤ ±30%D; CCV Criteria: ≤ ±20%D (≤50% for poor performers) and RF ≥0.050 (≥0.010 for poor performers)): o If %D> Control Limit (>50% for poor performers), then J flag positive results and UJ flag non-detects o If RF <0.050 (<0.010 for poor performers), then UJ flag non-detected semivolatile target compounds		✓		**Instrument CMSK:** • ICV of 08/13/2015 @ 20:38 (ICV 680-396036/9): o 1,1'-Biphenyl @ 26.8%D (Lab: ≤20, Project: ≤30). None[4] o Dibenzofuran @23.0%D (Lab: ≤20, Project: ≤30). None[4] o Fluorene @ 22.2%D (Lab: ≤20, Project: ≤30). Positive bias. None[5] o Fluoranthene @ 23.9%D (Lab: ≤20, Project: ≤30). Positive bias. None[5] o Dibenzo(a,h)anthracene @ 24.9%D (Lab: ≤20, Project: ≤30). Positive bias. None[5] o Benzo(g,h,i)perylene @ 22.1%D (Lab: ≤20, Project: ≤30). Positive bias. None[5] • CCV of 08/19/2015 @ 12:12 (CCV 680-396964/2): o Fluoranthene @ -21.4%D (Lab/Project: ≤20). Negative bias. Associated sample results[2] are estimated (J flagged). o Indeno[1,2,3-cd]pyrene @ -32.3%D (Lab/Project: ≤20). Negative bias. Associated sample results[2] are estimated (J/UJ flagged). o Dibenz(a,h)anthracene @ -22.5%D (Lab/Project: ≤20). Negative bias. Associated sample results[2] are estimated (JUJ flagged).	J/UJ
20. Was a LCS prepared for each batch and matrix?	✓				
21. Were LCS recoveries within lab control limits? If no, J flag positive results when %R >Upper Control Limit (UCL) and J/R flag results when %R <Lower Control Limit (LCL).	✓				

[2] Associated samples: 680-115692-38 through -40
[3] Associated samples: 680-115692-21 through -37
[4] Qualification of data is not required, as the analyte is not a target analyte; project specifications were also met.
[5] Qualification of data is not required, as project specifications were also met.

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
22. Were LCS/LCSD RPD within lab specifications? If no, J flag positive results and UJ flag non-detects			✓	LCS only	
23. Was a MS/MSD pair extracted at the proper frequency (one per 20 samples per batch)?	✓				
24. Is the MS/MSD parent sample a project-specific sample?	✓			Batch 396558: 680-115692-21 (CV0511BBB-CS-18), MS/MSD	
25. For all analytes with native sample concentrations < 4 x spiking level, were MS and MSD recoveries within laboratory/project specifications? *Only QC results for project samples that are reported under this Job ID are evaluated.* • If the native sample concentration > 4x spiking level, then an evaluation of interference is not possible. • If either MS or MSD recovery meets control limits, qualification of data is not warranted. • MS and MSD %R<10: J and R Flag positive and ND results, respectively • MS and MSD %R >10 and <LCL: J Flag positive and UJ flag non-detect results • MS and MSD R% >UCL (or 140): J Flag positive results	✓				
26. For all analytes with native sample concentrations < 4 x spiking level, were laboratory criteria met for precision during the MS and MSD analyses? *Only QC results for project samples that are reported under this Job ID are evaluated.* • If the native sample concentration > 4x spiking level, then an evaluation of interference is not possible. • If %RPD > UCL, J flag positive result and UJ flag non-detect result.	✓				
27. Were surrogate recoveries within lab/project specifications? • If %R for 1 Acid or BN surrogates <10, then J flag positive and R flag non-detect associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN %R >UCL, then J flag positive associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN %R ≥10%, but <LCL, then J flag positive and UJ flag non-detect associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN , with 1 %R >UCL and 1 %R ≥10%, but <LCL, then J flag positive and UJ flag non-detect associated sample results (i.e., acid or BN results)		✓		Surrogate o-terphenyl was not recovered (0%) during the diluted analysis of samples 680-114892-21 through -29, and -38 through -40. Qualification of sample results is not warranted, as the surrogate compound was diluted out of the samples.	
28. Were internal standard (IS) results within lab/project specifications? • If IS area counts are less than 50% of the midpoint calibration standard, then J flag positive and UJ flag non-detect associated sample results • If IS area counts are greater than 100% of the midpoint calibration standard, then J flag positive results	✓				

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
• If extremely low area counts are reported or performance exhibits a major abrupt drop-off, then a severe loss of sensitivity is indicated, J flag positive and R flag non-detect results • If retention time of sample's internal standard is not within 30 seconds of the associated calibration standard, R flag associated data. • The chromatographic profile for that sample must be examined to determine if any false positives or negatives exists. For shifts of large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Positive results need not be qualified as R, if mass spectral criteria are met.					
29. Were lab comments included in report?	✓			Refer to **Attachment C** (Case Narrative)	

Comments: The data validation was conducted in accordance with the *Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1* (OTIE, October 2012). The data review process was modeled after the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Organic Methods Data Review* (EPA, October 1999) and *USEPA CLP NFG for Low Concentration Organic Methods Data Review* (EPA, June 2001). Sample results have been qualified based on the results of the data review process (**Attachment D**). Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment.

DV Flag Definitions:

J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
R	The sample results are unusable. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected above the associated level; blank contamination may exist.
UJ	The analyte was not detected above the limit, and the limit is approximate and may be inaccurate or imprecise.

Acronyms:

%	Percent
%D	Percent difference
%R	Percent recovery
%RSD	Percent relative standard deviation
°C	Degrees Celsius
BN	Base/Neutral
CCV	Continuing calibration verification
CLP	Contract laboratory program
COC	Chain-of-custody
DFTPP	Decafluorotriphenylphosphine
DV	Data validation
EPA	Environmental Protection Agency
ICAL	Initial calibration
ICV	Initial calibration verification
IS	Internal standard
LCL	Lower control limit
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
MS	Matrix spike
MSD	Matrix spike duplicate
NFG	National Functional Guidelines

Data Validation Checklist (Continued)

PAH	Polynuclear aromatic hydrocarbons
QAPP	Quality Assurance Project Plan
QC	Quality control
RF	Response factor
RPD	Relative percent difference
RRF	Relative response factor
SW-846	*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA. Available: http://www3.epa.gov/epawaste/hazard/testmethods/index.htm [February 2, 2016]
UCL	Upper control limit

ATTACHMENT A

SAMPLE SUMMARY

SAMPLE SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-115692-2
Sdg Number: 680-115692-02

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-115692-21	CV0511BBB-CS-18	Solid	08/11/2015 0940	08/15/2015 1050
680-115692-21MS	CV0511BBB-CS-18	Solid	08/11/2015 0940	08/15/2015 1050
680-115692-21MSD	CV0511BBB-CS-18	Solid	08/11/2015 0940	08/15/2015 1050
680-115692-22	CV0511BBB-CS-24	Solid	08/11/2015 0945	08/15/2015 1050
680-115692-23	CV0511FF-CS-6	Solid	08/11/2015 1025	08/15/2015 1050
680-115692-24	CV0511FF-CS-12	Solid	08/11/2015 1030	08/15/2015 1050
680-115692-25	CV0511FF-CS-18	Solid	08/11/2015 1035	08/15/2015 1050
680-115692-26	CV0511FF-CS-24	Solid	08/11/2015 1040	08/15/2015 1050
680-115692-27	CV0511GGG-CS-6	Solid	08/11/2015 1215	08/15/2015 1050
680-115692-28	CV0511GGG-CSD-6	Solid	08/11/2015 1215	08/15/2015 1050
680-115692-29	CV0511GGG-CS-12	Solid	08/11/2015 1220	08/15/2015 1050
680-115692-30	CV0511GGG-CS-18	Solid	08/11/2015 1225	08/15/2015 1050
680-115692-31	CV0511GGG-CS-24	Solid	08/11/2015 1230	08/15/2015 1050
680-115692-32	CV0511XX-CS-6	Solid	08/11/2015 1315	08/15/2015 1050
680-115692-33	CV0511XX-CS-12	Solid	08/11/2015 1320	08/15/2015 1050
680-115692-34	CV0511XX-CS-18	Solid	08/11/2015 1325	08/15/2015 1050
680-115692-35	CV0511XX-CS-24	Solid	08/11/2015 1330	08/15/2015 1050
680-115692-36	CV0511X-CS-6	Solid	08/12/2015 0855	08/15/2015 1050
680-115692-37	CV0511X-CS-12	Solid	08/12/2015 0900	08/15/2015 1050
680-115692-38	CV0511X-CS-18	Solid	08/12/2015 0905	08/15/2015 1050
680-115692-39	CV0511X-CS-24	Solid	08/12/2015 0910	08/15/2015 1050
680-115692-40	CV0511Y-CS-6	Solid	08/12/2015 0940	08/15/2015 1050

ATTACHMENT B

FIELD DUPLICATE EVALUATION

Evaluation of Field Duplicate Results **Attachment B**

Analyte	680-115692-27 CV0511GGG-CS-6	RL	680-115692-28 CV0511GGG-CSD-6	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Anthracene		77	77	77	µg/kg	385	NA	**77**	154	None, absolute difference ≤ 2x Avg RL
Benzo[a]anthracene	160	77	410	77	µg/kg	385	NA	**250**	**154**	**J/UJ-flag, absolute difference > 2x Avg RL**
Benzo[a]pyrene	170	77	370	77	µg/kg	385	NA	**200**	**154**	**J/UJ-flag, absolute difference > 2x Avg RL**
Benzo[b]fluoranthene	230	77	520	77	µg/kg	385	NA	**290**	**154**	**J/UJ-flag, absolute difference > 2x Avg RL**
Benzo[g,h,i]perylene	110	77	220	77	µg/kg	385	NA	**110**	154	None, absolute difference ≤ 2x Avg RL
Benzo[k]fluoranthene	90	77	210	77	µg/kg	385	NA	**120**	154	None, absolute difference ≤ 2x Avg RL
Chrysene	180	77	390	77	µg/kg	385	NA	**210**	**154**	**J/UJ-flag, absolute difference > 2x Avg RL**
Dibenz(a,h)anthracene		77	78	77	µg/kg	385	NA	**78**	154	None, absolute difference ≤ 2x Avg RL
Fluoranthene	320	77	780	77	µg/kg	385	NA	**460**	**154**	**J/UJ-flag, absolute difference > 2x Avg RL**
Indeno[1,2,3-cd]pyrene	98	77	200	77	µg/kg	385	NA	**102**	154	None, absolute difference ≤ 2x Avg RL
Phenanthrene	160	77	310	77	µg/kg	385	NA	**150**	154	None, absolute difference ≤ 2x Avg RL
Pyrene	260	77	650	77	µg/kg	385	NA	**390**	**154**	**J/UJ-flag, absolute difference > 2x Avg RL**

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram
NA - Not applicable
RL - Reporting limit
RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

ATTACHMENT C

CASE NARRATIVE

CASE NARRATIVE
Client: Oneida Total Integrated Enterprises LLC
Project: 35th Avenue Superfund Site
Report Number: 680-115692-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 8/15/2015 10:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.4º C.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS) LOW LEVEL PAH
Samples CV0511BBB-CS-18 (680-115692-21), CV0511BBB-CS-24 (680-115692-22), CV0511FF-CS-6 (680-115692-23), CV0511FF-CS-12 (680-115692-24), CV0511FF-CS-18 (680-115692-25), CV0511FF-CS-24 (680-115692-26), CV0511GGG-CS-6 (680-115692-27), CV0511GGG-CSD-6 (680-115692-28), CV0511GGG-CS-12 (680-115692-29), CV0511GGG-CS-18 (680-115692-30), CV0511GGG-CS-24 (680-115692-31), CV0511XX-CS-6 (680-115692-32), CV0511XX-CS-12 (680-115692-33), CV0511XX-CS-18 (680-115692-34), CV0511XX-CS-24 (680-115692-35), CV0511X-CS-6 (680-115692-36), CV0511X-CS-12 (680-115692-37), CV0511X-CS-18 (680-115692-38), CV0511X-CS-24 (680-115692-39) and CV0511Y-CS-6 (680-115692-40) were analyzed for Semivolatile Organic Compounds (GC/MS) Low level PAH in accordance with EPA SW846 Method 8270D. The samples were prepared on 08/18/2015 and analyzed on 08/19/2015.

Method(s) 8270D_LL_PAH: The following sample(s) required a dilution due to the nature of the sample matrix: CV0511BBB-CS-18 (680-115692-21[10.0]), CV0511BBB-CS-18 (680-115692-21[MS][10.0]), CV0511BBB-CS-18 (680-115692-21[MSD][10.0]), CV0511BBB-CS-24 (680-115692-22[10.0]), CV0511FF-CS-6 (680-115692-23[10.0]), CV0511FF-CS-12 (680-115692-24[10.0]), CV0511FF-CS-18 (680-115692-25[10.0]), CV0511FF-CS-24 (680-115692-26[10.0]), CV0511GGG-CS-6 (680-115692-27[10.0]), CV0511GGG-CSD-6 (680-115692-28[10.0]) and CV0511GGG-CS-12 (680-115692-29[10.0]). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270D_LL_PAH: The continuing calibration verification (CCV) analyzed in batch 680-396964 was outside the method criteria for the following analyte(s): Dibenz(a,h)anthracene, Fluoranthene, Indeno[1,2,3-cd]pyrene and o-Terphenyl . A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D_LL_PAH: The following samples was diluted due to the nature of the sample matrix : CV0511X-CS-18 (680-115692-38), CV0511X-CS-24 (680-115692-39) and CV0511Y-CS-6 (680-115692-40). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS (ICP)
Samples CV0511BBB-CS-18 (680-115692-21), CV0511BBB-CS-24 (680-115692-22), CV0511FF-CS-6 (680-115692-23), CV0511FF-CS-12 (680-115692-24), CV0511FF-CS-18 (680-115692-25), CV0511FF-CS-24 (680-115692-26), CV0511GGG-CS-6 (680-115692-27), CV0511GGG-CSD-6 (680-115692-28), CV0511GGG-CS-12 (680-115692-29), CV0511GGG-CS-18 (680-115692-30), CV0511GGG-CS-24 (680-115692-31), CV0511XX-CS-6 (680-115692-32), CV0511XX-CS-12 (680-115692-33), CV0511XX-CS-18 (680-115692-34), CV0511XX-CS-24 (680-115692-35), CV0511X-CS-6 (680-115692-36), CV0511X-CS-12 (680-115692-37), CV0511X-CS-18 (680-115692-38), CV0511X-CS-24 (680-115692-39) and CV0511Y-CS-6 (680-115692-40) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 08/18/2015 and analyzed on 08/20/2015.

Lead recovery is outside criteria high for the MS of sample CV0511BBB-CS-18 (680-115692-21) in batch 680-397264.

Lead exceeded the RPD limit for the MSD of sample CV0511BBB-CS-18 (680-115692-21) in batch 680-397264.

Refer to the QC report for details.

Samples CV0511FF-CS-18 (680-115692-25)[10X], CV0511FF-CS-24 (680-115692-26)[10X], CV0511GGG-CSD-6 (680-115692-28)[10X] and CV0511X-CS-18 (680-115692-38)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS/MOISTURE
Samples CV0511BBB-CS-18 (680-115692-21), CV0511BBB-CS-24 (680-115692-22), CV0511FF-CS-6 (680-115692-23), CV0511FF-CS-12 (680-115692-24), CV0511FF-CS-18 (680-115692-25), CV0511FF-CS-24 (680-115692-26), CV0511GGG-CS-6

(680-115692-27), CV0511GGG-CSD-6 (680-115692-28), CV0511GGG-CS-12 (680-115692-29), CV0511GGG-CS-18 (680-115692-30), CV0511GGG-CS-24 (680-115692-31), CV0511XX-CS-6 (680-115692-32), CV0511XX-CS-12 (680-115692-33), CV0511XX-CS-18 (680-115692-34), CV0511XX-CS-24 (680-115692-35), CV0511X-CS-6 (680-115692-36), CV0511X-CS-12 (680-115692-37), CV0511X-CS-18 (680-115692-38), CV0511X-CS-24 (680-115692-39) and CV0511Y-CS-6 (680-115692-40) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP. The samples were analyzed on 08/18/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

ATTACHMENT D

QUALIFIED SAMPLE RESULTS

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511BBB-CS-18 | Lab Sample ID: 680-115692-21

Matrix: Solid | Lab File ID: 1YF19009.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 09:40

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 29.95(g) | Date Analyzed: 08/19/2015 15:47

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 14.1 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	78	U	78	38
208-96-8	Acenaphthylene	78	U	78	38
120-12-7	Anthracene	78	U	78	38
56-55-3	Benzo[a]anthracene	68	J	78	38
50-32-8	Benzo[a]pyrene	79		78	14
205-99-2	Benzo[b]fluoranthene	110		78	38
191-24-2	Benzo[g,h,i]perylene	100		78	38
207-08-9	Benzo[k]fluoranthene	40	J	78	23
218-01-9	Chrysene	89		78	38
53-70-3	Dibenz(a,h)anthracene	78	U	78	38
206-44-0	Fluoranthene	99		78	38
86-73-7	Fluorene	78	U	78	38
193-39-5	Indeno[1,2,3-cd]pyrene	59	J	78	38
90-12-0	1-Methylnaphthalene	78	U	78	36
91-57-6	2-Methylnaphthalene	78	U	78	38
91-20-3	Naphthalene	78	U	78	38
85-01-8	Phenanthrene	53	J	78	28
129-00-0	Pyrene	90		78	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511BBB-CS-24 | Lab Sample ID: 680-115692-22

Matrix: Solid | Lab File ID: 1YF19010.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 09:45

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 29.90(g) | Date Analyzed: 08/19/2015 16:14

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 17.2 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	81	U	81	40
208-96-8	Acenaphthylene	81	U	81	40
120-12-7	Anthracene	81	U	81	40
56-55-3	Benzo[a]anthracene	81	U	81	40
50-32-8	Benzo[a]pyrene	28	J	81	15
205-99-2	Benzo[b]fluoranthene	49	J	81	40
191-24-2	Benzo[g,h,i]perylene	81	U	81	40
207-08-9	Benzo[k]fluoranthene	81	U	81	24
218-01-9	Chrysene	81	U	81	40
53-70-3	Dibenz(a,h)anthracene	81	U	81	40
206-44-0	Fluoranthene	42	J	81	40
86-73-7	Fluorene	81	U	81	40
193-39-5	Indeno[1,2,3-cd]pyrene	81	U	81	40
90-12-0	1-Methylnaphthalene	81	U	81	38
91-57-6	2-Methylnaphthalene	81	U	81	40
91-20-3	Naphthalene	81	U	81	40
85-01-8	Phenanthrene	81	U	81	29
129-00-0	Pyrene	81	U	81	40

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511FF-CS-6 | Lab Sample ID: 680-115692-23

Matrix: Solid | Lab File ID: 1YF19011.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 10:25

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 29.97(g) | Date Analyzed: 08/19/2015 16:42

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 11.8 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	76	U	76	37
208-96-8	Acenaphthylene	76	U	76	37
120-12-7	Anthracene	76	U	76	37
56-55-3	Benzo[a]anthracene	210		76	37
50-32-8	Benzo[a]pyrene	200		76	14
205-99-2	Benzo[b]fluoranthene	290		76	37
191-24-2	Benzo[g,h,i]perylene	120		76	37
207-08-9	Benzo[k]fluoranthene	110		76	23
218-01-9	Chrysene	220		76	37
53-70-3	Dibenz(a,h)anthracene	76	U	76	37
206-44-0	Fluoranthene	360		76	37
86-73-7	Fluorene	76	U	76	37
193-39-5	Indeno[1,2,3-cd]pyrene	120		76	37
90-12-0	1-Methylnaphthalene	76	U	76	35
91-57-6	2-Methylnaphthalene	76	U	76	37
91-20-3	Naphthalene	76	U	76	37
85-01-8	Phenanthrene	110		76	27
129-00-0	Pyrene	290		76	37

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511FF-CS-12 | Lab Sample ID: 680-115692-24

Matrix: Solid | Lab File ID: 1YF19012.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 10:30

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.29(g) | Date Analyzed: 08/19/2015 17:09

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.5 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77	U	77	38
56-55-3	Benzo[a]anthracene	210		77	38
50-32-8	Benzo[a]pyrene	230		77	14
205-99-2	Benzo[b]fluoranthene	330		77	38
191-24-2	Benzo[g,h,i]perylene	150		77	38
207-08-9	Benzo[k]fluoranthene	110		77	23
218-01-9	Chrysene	230		77	38
53-70-3	Dibenz(a,h)anthracene	43	J	77	38
206-44-0	Fluoranthene	390		77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	140		77	38
90-12-0	1-Methylnaphthalene	77	U	77	35
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	120		77	27
129-00-0	Pyrene	310		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511FF-CS-18 | Lab Sample ID: 680-115692-25

Matrix: Solid | Lab File ID: 1YF19013.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 10:35

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.36(g) | Date Analyzed: 08/19/2015 17:37

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.9 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77	U	77	38
56-55-3	Benzo[a]anthracene	140		77	38
50-32-8	Benzo[a]pyrene	150		77	14
205-99-2	Benzo[b]fluoranthene	220		77	38
191-24-2	Benzo[g,h,i]perylene	100		77	38
207-08-9	Benzo[k]fluoranthene	80		77	23
218-01-9	Chrysene	160		77	38
53-70-3	Dibenz(a,h)anthracene	77	U	77	38
206-44-0	Fluoranthene	220		77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	94		77	38
90-12-0	1-Methylnaphthalene	77	U	77	36
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	73	J	77	28
129-00-0	Pyrene	180		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511FF-CS-24 | Lab Sample ID: 680-115692-26

Matrix: Solid | Lab File ID: 1YF19014.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 10:40

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 29.97(g) | Date Analyzed: 08/19/2015 18:04

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 14.9 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	79	U	79	39
208-96-8	Acenaphthylene	79	U	79	39
120-12-7	Anthracene	79	U	79	39
56-55-3	Benzo[a]anthracene	170		79	39
50-32-8	Benzo[a]pyrene	180		79	14
205-99-2	Benzo[b]fluoranthene	260		79	39
191-24-2	Benzo[g,h,i]perylene	120		79	39
207-08-9	Benzo[k]fluoranthene	110		79	24
218-01-9	Chrysene	190		79	39
53-70-3	Dibenz(a,h)anthracene	79	U	79	39
206-44-0	Fluoranthene	280		79	39
86-73-7	Fluorene	79	U	79	39
193-39-5	Indeno[1,2,3-cd]pyrene	120		79	39
90-12-0	1-Methylnaphthalene	79	U	79	36
91-57-6	2-Methylnaphthalene	79	U	79	39
91-20-3	Naphthalene	79	U	79	39
85-01-8	Phenanthrene	62	J	79	28
129-00-0	Pyrene	220		79	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511GGG-CS-6 | Lab Sample ID: 680-115692-27

Matrix: Solid | Lab File ID: 1YF19015.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 12:15

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.27(g) | Date Analyzed: 08/19/2015 18:32

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.7 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77	U	77	38
56-55-3	Benzo[a]anthracene	160	J4	77	38
50-32-8	Benzo[a]pyrene	170	J4	77	14
205-99-2	Benzo[b]fluoranthene	230	J4	77	38
191-24-2	Benzo[g,h,i]perylene	110		77	38
207-08-9	Benzo[k]fluoranthene	90		77	23
218-01-9	Chrysene	180	J4	77	38
53-70-3	Dibenz(a,h)anthracene	77	U	77	38
206-44-0	Fluoranthene	320	J4	77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	98		77	38
90-12-0	1-Methylnaphthalene	77	U	77	36
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	160		77	28
129-00-0	Pyrene	260	J	77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511GGG-CSD-6 | Lab Sample ID: 680-115692-28

Matrix: Solid | Lab File ID: 1YF19016.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 12:15

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.17(g) | Date Analyzed: 08/19/2015 18:59

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.6 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77		77	38
56-55-3	Benzo[a]anthracene	410	J	77	38
50-32-8	Benzo[a]pyrene	370	J	77	14
205-99-2	Benzo[b]fluoranthene	520	J	77	38
191-24-2	Benzo[g,h,i]perylene	220		77	38
207-08-9	Benzo[k]fluoranthene	210		77	23
218-01-9	Chrysene	390	J	77	38
53-70-3	Dibenz(a,h)anthracene	78		77	38
206-44-0	Fluoranthene	780	J	77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	200		77	38
90-12-0	1-Methylnaphthalene	77	U	77	36
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	310		77	28
129-00-0	Pyrene	650	J	77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511GGG-CS-12 | Lab Sample ID: 680-115692-29

Matrix: Solid | Lab File ID: 1YF19017.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 12:20

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.14(g) | Date Analyzed: 08/19/2015 19:26

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 14.1 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	78	U	78	38
208-96-8	Acenaphthylene	78	U	78	38
120-12-7	Anthracene	78	U	78	38
56-55-3	Benzo[a]anthracene	78	U	78	38
50-32-8	Benzo[a]pyrene	30	J	78	14
205-99-2	Benzo[b]fluoranthene	48	J	78	38
191-24-2	Benzo[g,h,i]perylene	78	U	78	38
207-08-9	Benzo[k]fluoranthene	78	U	78	23
218-01-9	Chrysene	38	J	78	38
53-70-3	Dibenz(a,h)anthracene	78	U	78	38
206-44-0	Fluoranthene	51	J	78	38
86-73-7	Fluorene	78	U	78	38
193-39-5	Indeno[1,2,3-cd]pyrene	78	U	78	38
90-12-0	1-Methylnaphthalene	78	U	78	36
91-57-6	2-Methylnaphthalene	78	U	78	38
91-20-3	Naphthalene	78	U	78	38
85-01-8	Phenanthrene	29	J	78	28
129-00-0	Pyrene	43	J	78	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511GGG-CS-18 | Lab Sample ID: 680-115692-30

Matrix: Solid | Lab File ID: 1YF19018.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 12:25

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 29.98(g) | Date Analyzed: 08/19/2015 19:53

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 17.7 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	8.1	U	8.1	4.0
208-96-8	Acenaphthylene	8.1	U	8.1	4.0
120-12-7	Anthracene	8.1	U	8.1	4.0
56-55-3	Benzo[a]anthracene	13		8.1	4.0
50-32-8	Benzo[a]pyrene	15		8.1	1.5
205-99-2	Benzo[b]fluoranthene	24		8.1	4.0
191-24-2	Benzo[g,h,i]perylene	8.4		8.1	4.0
207-08-9	Benzo[k]fluoranthene	9.2		8.1	2.4
218-01-9	Chrysene	18		8.1	4.0
53-70-3	Dibenz(a,h)anthracene	8.1	U	8.1	4.0
206-44-0	Fluoranthene	28		8.1	4.0
86-73-7	Fluorene	8.1	U	8.1	4.0
193-39-5	Indeno[1,2,3-cd]pyrene	8.5		8.1	4.0
90-12-0	1-Methylnaphthalene	8.1	U	8.1	3.8
91-57-6	2-Methylnaphthalene	8.1	U	8.1	4.0
91-20-3	Naphthalene	8.1	U	8.1	4.0
85-01-8	Phenanthrene	11		8.1	2.9
129-00-0	Pyrene	21		8.1	4.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	83		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511GGG-CS-24 | Lab Sample ID: 680-115692-31

Matrix: Solid | Lab File ID: 1YF19019.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 12:30

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.24(g) | Date Analyzed: 08/19/2015 20:20

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 16.2 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.9	U	7.9	3.9
208-96-8	Acenaphthylene	7.9	U	7.9	3.9
120-12-7	Anthracene	7.9	U	7.9	3.9
56-55-3	Benzo[a]anthracene	7.9	U	7.9	3.9
50-32-8	Benzo[a]pyrene	2.9	J	7.9	1.4
205-99-2	Benzo[b]fluoranthene	4.9	J	7.9	3.9
191-24-2	Benzo[g,h,i]perylene	7.9	U	7.9	3.9
207-08-9	Benzo[k]fluoranthene	7.9	U	7.9	2.4
218-01-9	Chrysene	7.9	U	7.9	3.9
53-70-3	Dibenz(a,h)anthracene	7.9	U	7.9	3.9
206-44-0	Fluoranthene	5.7	J	7.9	3.9
86-73-7	Fluorene	7.9	U	7.9	3.9
193-39-5	Indeno[1,2,3-cd]pyrene	7.9	U	7.9	3.9
90-12-0	1-Methylnaphthalene	7.9	U	7.9	3.7
91-57-6	2-Methylnaphthalene	7.9	U	7.9	3.9
91-20-3	Naphthalene	7.9	U	7.9	3.9
85-01-8	Phenanthrene	7.9	U	7.9	2.8
129-00-0	Pyrene	4.1	J	7.9	3.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	88		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511XX-CS-6 | Lab Sample ID: 680-115692-32

Matrix: Solid | Lab File ID: 1YF19020.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 13:15

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.09(g) | Date Analyzed: 08/19/2015 20:47

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.4 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.0	J	7.7	3.8
208-96-8	Acenaphthylene	10		7.7	3.8
120-12-7	Anthracene	25		7.7	3.8
56-55-3	Benzo[a]anthracene	190		7.7	3.8
50-32-8	Benzo[a]pyrene	190		7.7	1.4
205-99-2	Benzo[b]fluoranthene	340		7.7	3.8
191-24-2	Benzo[g,h,i]perylene	87		7.7	3.8
207-08-9	Benzo[k]fluoranthene	120		7.7	2.3
218-01-9	Chrysene	220		7.7	3.8
53-70-3	Dibenz(a,h)anthracene	30		7.7	3.8
206-44-0	Fluoranthene	380		7.7	3.8
86-73-7	Fluorene	10		7.7	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	68		7.7	3.8
90-12-0	1-Methylnaphthalene	28		7.7	3.6
91-57-6	2-Methylnaphthalene	32		7.7	3.8
91-20-3	Naphthalene	29		7.7	3.8
85-01-8	Phenanthrene	160		7.7	2.8
129-00-0	Pyrene	280		7.7	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	78		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511XX-CS-12 | Lab Sample ID: 680-115692-33

Matrix: Solid | Lab File ID: 1YF19021.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 13:20

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 29.92(g) | Date Analyzed: 08/19/2015 21:14

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 18.7 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	8.3	U	8.3	4.1
208-96-8	Acenaphthylene	8.3	U	8.3	4.1
120-12-7	Anthracene	4.8	J	8.3	4.1
56-55-3	Benzo[a]anthracene	26		8.3	4.1
50-32-8	Benzo[a]pyrene	24		8.3	1.5
205-99-2	Benzo[b]fluoranthene	57		8.3	4.1
191-24-2	Benzo[g,h,i]perylene	13		8.3	4.1
207-08-9	Benzo[k]fluoranthene	16		8.3	2.5
218-01-9	Chrysene	40		8.3	4.1
53-70-3	Dibenz(a,h)anthracene	4.1	J	8.3	4.1
206-44-0	Fluoranthene	51		8.3	4.1
86-73-7	Fluorene	8.3	U	8.3	4.1
193-39-5	Indeno[1,2,3-cd]pyrene	11		8.3	4.1
90-12-0	1-Methylnaphthalene	5.2	J	8.3	3.8
91-57-6	2-Methylnaphthalene	7.1	J	8.3	4.1
91-20-3	Naphthalene	13		8.3	4.1
85-01-8	Phenanthrene	26		8.3	3.0
129-00-0	Pyrene	32		8.3	4.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	55		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511XX-CS-18 | Lab Sample ID: 680-115692-34

Matrix: Solid | Lab File ID: 1YF19022.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 13:25

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.28(g) | Date Analyzed: 08/19/2015 21:41

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 19.4 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	8.2	U	8.2	4.1
208-96-8	Acenaphthylene	8.2	U	8.2	4.1
120-12-7	Anthracene	8.2	U	8.2	4.1
56-55-3	Benzo[a]anthracene	11		8.2	4.1
50-32-8	Benzo[a]pyrene	13		8.2	1.5
205-99-2	Benzo[b]fluoranthene	24		8.2	4.1
191-24-2	Benzo[g,h,i]perylene	6.5	J	8.2	4.1
207-08-9	Benzo[k]fluoranthene	8.2		8.2	2.5
218-01-9	Chrysene	16		8.2	4.1
53-70-3	Dibenz(a,h)anthracene	8.2	U	8.2	4.1
206-44-0	Fluoranthene	24		8.2	4.1
86-73-7	Fluorene	8.2	U	8.2	4.1
193-39-5	Indeno[1,2,3-cd]pyrene	5.2	J	8.2	4.1
90-12-0	1-Methylnaphthalene	8.2	U	8.2	3.8
91-57-6	2-Methylnaphthalene	8.2	U	8.2	4.1
91-20-3	Naphthalene	8.2	U	8.2	4.1
85-01-8	Phenanthrene	10		8.2	3.0
129-00-0	Pyrene	18		8.2	4.1

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	83		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511XX-CS-24 | Lab Sample ID: 680-115692-35

Matrix: Solid | Lab File ID: 1YF19023.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/11/2015 13:30

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.32(g) | Date Analyzed: 08/19/2015 22:08

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 18.4 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	8.1	U	8.1	4.0
208-96-8	Acenaphthylene	8.1	U	8.1	4.0
120-12-7	Anthracene	8.1	U	8.1	4.0
56-55-3	Benzo[a]anthracene	4.0	J	8.1	4.0
50-32-8	Benzo[a]pyrene	4.9	J	8.1	1.5
205-99-2	Benzo[b]fluoranthene	10		8.1	4.0
191-24-2	Benzo[g,h,i]perylene	8.1	U	8.1	4.0
207-08-9	Benzo[k]fluoranthene	3.2	J	8.1	2.4
218-01-9	Chrysene	6.3	J	8.1	4.0
53-70-3	Dibenz(a,h)anthracene	8.1	U	8.1	4.0
206-44-0	Fluoranthene	9.9		8.1	4.0
86-73-7	Fluorene	8.1	U	8.1	4.0
193-39-5	Indeno[1,2,3-cd]pyrene	8.1	U	8.1	4.0
90-12-0	1-Methylnaphthalene	8.1	U	8.1	3.8
91-57-6	2-Methylnaphthalene	8.1	U	8.1	4.0
91-20-3	Naphthalene	8.1	U	8.1	4.0
85-01-8	Phenanthrene	5.0	J	8.1	2.9
129-00-0	Pyrene	7.0	J	8.1	4.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	81		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511X-CS-6 | Lab Sample ID: 680-115692-36

Matrix: Solid | Lab File ID: 1YF19024.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 08:55

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.30(g) | Date Analyzed: 08/19/2015 22:34

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 12.1 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.5	U	7.5	3.7
208-96-8	Acenaphthylene	7.5	U	7.5	3.7
120-12-7	Anthracene	7.5	U	7.5	3.7
56-55-3	Benzo[a]anthracene	12		7.5	3.7
50-32-8	Benzo[a]pyrene	14		7.5	1.4
205-99-2	Benzo[b]fluoranthene	21		7.5	3.7
191-24-2	Benzo[g,h,i]perylene	5.4	J	7.5	3.7
207-08-9	Benzo[k]fluoranthene	8.5		7.5	2.3
218-01-9	Chrysene	13		7.5	3.7
53-70-3	Dibenz(a,h)anthracene	7.5	U	7.5	3.7
206-44-0	Fluoranthene	24		7.5	3.7
86-73-7	Fluorene	7.5	U	7.5	3.7
193-39-5	Indeno[1,2,3-cd]pyrene	4.5	J	7.5	3.7
90-12-0	1-Methylnaphthalene	7.5	U	7.5	3.5
91-57-6	2-Methylnaphthalene	7.5	U	7.5	3.7
91-20-3	Naphthalene	7.5	U	7.5	3.7
85-01-8	Phenanthrene	7.0	J	7.5	2.7
129-00-0	Pyrene	18		7.5	3.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	88		36-131

Sample results have been qualified by URS in accordance with the Non-industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (QTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511X-CS-12 | Lab Sample ID: 680-115692-37

Matrix: Solid | Lab File ID: 1YF19025.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 09:00

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.26(g) | Date Analyzed: 08/19/2015 23:01

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 12.6 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396970 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.6	U	7.6	3.7
208-96-8	Acenaphthylene	7.6	U	7.6	3.7
120-12-7	Anthracene	7.6	U	7.6	3.7
56-55-3	Benzo[a]anthracene	7.3	J	7.6	3.7
50-32-8	Benzo[a]pyrene	6.5	J	7.6	1.4
205-99-2	Benzo[b]fluoranthene	11		7.6	3.7
191-24-2	Benzo[g,h,i]perylene	7.6	U	7.6	3.7
207-08-9	Benzo[k]fluoranthene	4.0	J	7.6	2.3
218-01-9	Chrysene	7.8		7.6	3.7
53-70-3	Dibenz(a,h)anthracene	7.6	U	7.6	3.7
206-44-0	Fluoranthene	12		7.6	3.7
86-73-7	Fluorene	7.6	U	7.6	3.7
193-39-5	Indeno[1,2,3-cd]pyrene	7.6	U	7.6	3.7
90-12-0	1-Methylnaphthalene	7.6	U	7.6	3.5
91-57-6	2-Methylnaphthalene	7.6	U	7.6	3.7
91-20-3	Naphthalene	7.6	U	7.6	3.7
85-01-8	Phenanthrene	4.7	J	7.6	2.7
129-00-0	Pyrene	8.8		7.6	3.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	62		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511X-CS-18 | Lab Sample ID: 680-115692-38

Matrix: Solid | Lab File ID: 1KH19017.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 09:05

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.00(g) | Date Analyzed: 08/19/2015 18:26

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.5 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396964 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77	U	77	38
56-55-3	Benzo[a]anthracene	130		77	38
50-32-8	Benzo[a]pyrene	110		77	14
205-99-2	Benzo[b]fluoranthene	200		77	38
191-24-2	Benzo[g,h,i]perylene	77		77	38
207-08-9	Benzo[k]fluoranthene	93		77	23
218-01-9	Chrysene	150		77	38
53-70-3	Dibenz(a,h)anthracene	77	U UJ	77	38
206-44-0	Fluoranthene	170	J	77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	56	J J	77	38
90-12-0	1-Methylnaphthalene	77	U	77	36
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	45	J	77	28
129-00-0	Pyrene	220		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511X-CS-24 | Lab Sample ID: 680-115692-39

Matrix: Solid | Lab File ID: 1KH19018.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 09:10

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 30.16(g) | Date Analyzed: 08/19/2015 18:50

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 16.0 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396964 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	79	U	79	39
208-96-8	Acenaphthylene	79	U	79	39
120-12-7	Anthracene	79	U	79	39
56-55-3	Benzo[a]anthracene	79	U	79	39
50-32-8	Benzo[a]pyrene	40	J	79	14
205-99-2	Benzo[b]fluoranthene	74	J	79	39
191-24-2	Benzo[g,h,i]perylene	79	U	79	39
207-08-9	Benzo[k]fluoranthene	79	U	79	24
218-01-9	Chrysene	59	J	79	39
53-70-3	Dibenz(a,h)anthracene	79	UJ	79	39
206-44-0	Fluoranthene	56	J	79	39
86-73-7	Fluorene	79	U	79	39
193-39-5	Indeno[1,2,3-cd]pyrene	79	UJ	79	39
90-12-0	1-Methylnaphthalene	79	U	79	37
91-57-6	2-Methylnaphthalene	79	U	79	39
91-20-3	Naphthalene	79	U	79	39
85-01-8	Phenanthrene	41	J	79	28
129-00-0	Pyrene	72	J	79	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah | Job No.: 680-115692-2

SDG No.: 680-115692-02

Client Sample ID: CV0511Y-CS-6 | Lab Sample ID: 680-115692-40

Matrix: Solid | Lab File ID: 1KH19019.D

Analysis Method: 8270D_LL_PAH | Date Collected: 08/12/2015 09:40

Extract. Method: 3546 | Date Extracted: 08/18/2015 09:27

Sample wt/vol: 29.99(g) | Date Analyzed: 08/19/2015 19:14

Con. Extract Vol.: 1(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | Level: (low/med) Low

% Moisture: 13.4 | GPC Cleanup:(Y/N) N

Analysis Batch No.: 396964 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	90		77	38
56-55-3	Benzo[a]anthracene	420		77	38
50-32-8	Benzo[a]pyrene	300		77	14
205-99-2	Benzo[b]fluoranthene	600		77	38
191-24-2	Benzo[g,h,i]perylene	210		77	38
207-08-9	Benzo[k]fluoranthene	230		77	23
218-01-9	Chrysene	430		77	38
53-70-3	Dibenz(a,h)anthracene	75	J	77	38
206-44-0	Fluoranthene	710	J	77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	150	J	77	38
90-12-0	1-Methylnaphthalene	77	U	77	36
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	39	J	77	38
85-01-8	Phenanthrene	360		77	28
129-00-0	Pyrene	910		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131